FEED MANUFACTURERS' AND DEALERS' GAINS AND LOSSES FROM FEED CONTRACT PROGRAMS IN THE MIDWEST

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Feed manufacturers and dealers have offered livestock and poultry feeders a variety of feed-financing and contract programs. These programs differ greatly in the degree of control and participation by the manufacturer or dealer and in the quantity of feed per program. There are informal programs that involve only the extension of credit for the purchase of feed from the sponsor and formal programs that provide for supervision of production and some risk-sharing. Many of these programs in the Midwest have been unprofitable to the sponsors. A recent study of 48 feeder-financing and contract programs showed that 42 percent were unprofitable. The informal programs were more frequently profitable than the formal programs.

Feed manufacturers and dealers have spurred the development of contract farming in the United States in recent years. Their unprofitable experience with financing and contract programs in the Midwest may slow the growth of integration in livestock feeding in that area.

The following article presents the results of the study of 48 feeder programs and considers the characteristics of the profitable and unprofitable programs.

Contract farming is a type of vertical integration which has increased sharply in the United States in recent years. Opinions, however, differ concerning future developments and trends in integration in the Midwest.

Feed manufacturers and dealers have been important innovators in contract farming. They were among the first to offer financing and contract programs to livestock and poultry farmers in the South and in other regions, including the Midwest. In 1959, nearly 20 percent of the total feed industry sales in the Midwest came under some sort of financing or contract program. A common feature of these programs is that they provide the livestock producer with credit for feed to be used during a specified period. In return, the livestock producer agrees to use the feed of the manufacturer (or dealer) during the period.

Future developments in financing and contract programs in the Midwest will depend to a large extent upon the attitude of feed firms toward contracting. If feed manufacturers obtain satisfactory profits from contract programs, they will continue to promote them, provided there is continued acceptance by livestock feeders. But if profits are small or there are none, manufacturers may not stimulate further integration. Consequently, contracting with feeders would not likely expand further in the Midwest.

The major objective of the study was to compare potential profits to feed manufacturers from alternative financing and contract programs. Another objective was to ascertain future trends in the integration of feed manufacturing and livestock feeding

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in the Midwest. Added costs and added benefits to a sample of 24 feed manufacturers from 48 different contract programs in Iowa and surrounding States were analyzed. The effects on returns of different sizes and types of livestock programs also were evaluated.

The cost and income figures represent conditions in the feed industry in 1959 and 1960. Total industry feed sales in the Midwest tended to level off in these years. Furthermore, overall economic activity in the United States declined slightly in the second half of 1960. These 2 factors may have raised costs and lowered incomes to feed manufacturers slightly compared with other time periods. However, since this study measured the impact of programs in terms of net added costs and net added incomes, the effects of the 2 factors on net returns probably were small. The effect on feed manufacturers' total costs and total incomes from all sales may have been greater.

Analysis of Programs

The 48 different contract programs are grouped into 5 classes ranging from informal financing agreements to formal risk-sharing contract programs. Under informal programs (Classes I and II), feed manufacturers furnish the farmer credit for feed. In return, the farmer agrees to use a specified brand of feed during a stated time period. The feed manufacturer gives the farmer little or no production supervision.

Under formalized programs (Classes III and IV), the farmer meets certain minimum production standards and carries out a specified kind of feeding and management program in return for the feed credit given him. His feeding operation is controlled as well as supervised by the feed manufacturer. Under more formal agreements, the farmer may also agree to utilize a specified source or type of feeder (or breeder) stock and to carry out a specific marketing program.

Under risk-sharing programs (Class V), the feed company shares with the farmer some production and price risks of the livestock enterprise. This is the most formalized program.

The total annual volume of feed sold under the 48 programs in the study was about 300,000 tons. Nearly half of the tonnage was hog feed. The average volume per agreement varied from about 2,000 tons for the cattle programs to nearly 14,000 for the turkey program (table 11).

Costs and Revenues

The added costs of conducting a financing and contract program came from 2 major sources: (1) The feed supplied under the program; and (2) other production items tied in with the program. Added expenses in the first category included salaries and wages of additional employees; printing costs, legal fees, and registration costs; added travel and meeting costs; interest costs for capital to finance the program; bad debt losses under the program; and added administrative and overhead costs. Sources of other costs for various production items tied in with the programs included interest costs for the capital to finance these items; bad debt losses; and handling costs for production supplies, breeder and feeder stock, and/or services arranged for by the feed manufacturer.

Analysis of these costs indicates that total added unit costs tended to increase with average volume and higher risk-sharing programs. The most important individual items of cost for these programs were interest on money to finance feed sales and added labor costs. Turkey programs were the most expensive and cattle programs the least expensive. The average feed tonnage was largest for turkey programs and smallest for cattle programs. Also, none of the turkey programs were in the 2 classes of informal programs, and all but 1 of the cattle programs were in those classes.

The added revenue to feed manufacturers under the financing and contract programs came from 3 major sources:

Table 11.--Feed financing and contract programs: Number and volume, by class and type of livestock, Midwest

Program type	All livestock		Hogs		Cattle	
	Programs	Sales volume per program	Programs	Sales volume per program	Programs	Sales volume per program
	Number	Tons	Number	Tons	Number	Tons
Class I (Informal)	11	1,555	6	2,285	4	474
Class II	15	5,950	10	7,075	5	3,700
Class III	10	11,683	5	11,326	--	--
Class IV	7	13,330	--	--	--	--
Class V (Risk-sharing programs)	5	2,659	2	3,574	1	300
Total or average	48	6,870	23	6,444	10	2,070

Program type	Turkeys		Pullets	
	Programs	Sales volume per program	Programs	Sales volume per program
	Number	Tons	Number	Tons
Class I (Informal)	--	--	1	1,500
Class II	--	--	--	--
Class III	3	15,333	2	7,100
Class IV	4	18,200	3	6,837
Class V (Risk-sharing programs)	2	2,925	--	--
Total or average	9	13,850	6	6,035

(1) Revenues from the feed; (2) revenues from other production items; and (3) indirect income through savings in production and distribution of feed.

Revenue from feed included interest charges, service charges, and cash and other discounts saved because sales under the programs did not qualify for quantity, bulk, booking, and other discounts, including cash discounts.

Revenue from other production items (supplies) included interest charges, margins received on production supplies furnished, margins received on breeder or feeder stock furnished, and other sources (such as margins on death insurance furnished).

The indirect benefits of the financing and contract programs to the feed manufacturers came through savings in ingredient costs, savings in the cost of transporting feeds, and lower manufacturing costs through increases in volume.

Total added revenue was smallest for the informal programs and tended to increase as arrangements became more

formal. The largest source of revenue was the interest charge on feed and on other production items financed. Savings in manufacturing costs through increased volume was the largest source of indirect income.

Revenue per ton of feed was largest for the turkey program and smallest for cattle and hog programs.

Net Returns

A manufacturer's net return from a program was measured by comparing the added costs of operating the program with added receipts and savings. Thus, the indirect benefits from the programs -- such as reduced ingredient costs, lower production costs, and savings in delivery -- were included in added revenue.

On the average, feed manufacturers seem to have had a net loss from their financing and contract programs in the Midwest. The direct out-of-pocket loss averaged $2.07 per ton for all programs (table 12). Even considering the total indirect dollar benefits to the manufacturers, the absolute annual loss from these programs still was $0.87 per ton of feed. These average losses increased as the contract program became more formal and complete. Only from Class I programs were manufacturers able, on the average, to obtain a net profit -- $1.52 per ton. From the Class V programs, feed manufacturers lost $3.22 per ton. Table 12 suggests that programs with small volume tended to be more profitable than those with large volume.

Hog programs brought feed manufacturers the largest losses (table 13). The average loss was $1.25 per ton of feed, even after considering the indirect benefits of $1.19 per ton. Only the cattle programs produced a net gain -- 35 cents per ton. Cattle programs also had the smallest average tonnage.

Factors Influencing Profits

Gains and losses to manufacturers from the financing and contract programs were by no means uniform. Some individual programs in each class and for every type of livestock showed sizeable added gains. Three of the 48 programs, for example, produced direct in-pocket gains

Table 12.--Source of average net gain or loss per ton to feed manufacturers from contract feed programs and sales of feed per program, by type of program

Source of net gain or loss 1/	Class I	Class II	Class III	Class IV	Class V	All classes
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Feed	0.92	(1.54)	(2.86)	(0.46)	(4.53)	(1.70)
Supplies	.06	(.02)	(.17)	(.98)	(.86)	(.37)
Savings in production	.54	1.52	1.22	.85	2.17	1.20
Total	1.52	(.04)	(1.81)	(.59)	(3.22)	(.87)
	Tons	Tons	Tons	Tons	Tons	Tons
Average sales per program	1,555	5,950	11,683	13,330	2,659	6,870

1/ Figures in parentheses denote losses.

Table 13.--Source of average net gain or loss per ton to feed manufacturers from contract feed programs and sales of feed per program by type of livestock

Source of net income 1/	Type of livestock			
	Hogs	Cattle	Turkeys	Pullets
	Dollars	Dollars	Dollars	Dollars
Feed	(2.44)	(0.16)	(0.88)	(2.34)
Supplies	--	.12	(1.03)	.06
Savings in production	1.19	.39	1.33	1.34
Net gain or loss	(1.25)	.35	(.58)	(.94)
	Tons	Tons	Tons	Tons
Average sales per program	6,444	2,070	13,850	6,035

1/ Figures in parentheses denote losses.

of over $5.00 per ton, 10 of them gains of over $2.00 per ton. Three of the programs, however, resulted in net losses of over $5.00 per ton, even after taking account of indirect benefits. Eleven of the programs used up the manufacturer's equity capital at a rate of over $2.00 per ton, including indirect benefits.

Three major factors may have exerted various degrees of influence on feed manufacturers' profits from contract and financing programs: Class of contractual arrangement, type of livestock, and tonnage of feed per program. Often, however, the net effect of each factor on net returns was obscured by their combined influence on profits. Furthermore, some of the findings also might have been only coincidental, because there is no logical explanation why certain factors have an upward and others a downward influence on profits. For example, why should informal agreements to more profitable than formal agreements? Why should programs for certain types of livestock be profitable and those for other types unprofitable? Why should small-volume programs be more profitable than large-volume programs?

To answer some of these questions, the 48 programs were rearranged into 3 groups: (1) Those adding $2.00 per ton or more to feed manufacturers' net incomes; (2) those whose net incomes or losses did not exceed $2.00 per ton; and (3) those reducing manufacturers' net incomes by $2.00 per ton or more (table 14).

Programs for the various types of livestock were proportionately distributed among these 3 groups. About one-half of the programs in each group were hog programs, about one-fourth were cattle programs, and the rest were pullet and turkey programs. This suggests that the type of livestock was not a major influence.

The distribution of programs by class among the 3 groups reveals that the class of program may have had some impact on manufacturers' profits. Relatively more informal programs were found in the profitable group. However, there was a great difference in feed tonnage per program. The volume of feed per program under the profitable group was only one-fourth of the tonnage contracted under the other 2 groups of programs.

Table 14.--Source of average net gain or loss per ton to feed manufacturers from profitable, average, and unprofitable contract programs, and average sales per program

Source of net gain or loss 1/	Profitable	Average	Unprofitable
	Dollars	Dollars	Dollars
Feed 2/	0.08	(0.70)	(5.18)
Supplies 3/	1.03	(.83)	(.20)
Savings in production 4/	1.93	1.28	.74
Total	3.04	(.25)	(4.64)
	Tons	Tons	Tons
Average sales per program	2,484	9,644	9,259
Number of programs	18	19	11

1/ Figures in parentheses denote losses.
2/ Difference between cost and revenue. Costs include added labor, printing, travel, interest, bad debt, and added overhead. Revenues include interest, service charges, and cash discounts saved.
3/ Difference between cost and revenue. Costs include interest, bad debt and handling. Revenues include interest, margin on supplies, margin on stock, and other.
4/ Revenues only from plant savings on ingredients, delivery, and increased volume.

A comparison of the net gain or loss among the 3 groups of programs reveals that the profitable programs resulted in an average gain to feed manufacturers -- $3.04 per ton over normal feed sales or approximately $7,500 per program (table 14). The unprofitable programs produced an average loss of $4.64 per ton or $43,000 per program. Thus, the profitable programs returned an average of $7.68 per ton more than the less profitable programs.

Data in table 14 show that the small-volume programs were more profitable on the average than large-volume programs. This is even more clearly demonstrated in table 15. The percentage of programs yielding profits to feed manufacturers gradually declined as the tonnage under the program increased.

Table 15 reveals 2 additional important features of the financial and contract programs in the Midwest. First, a surprisingly large percentage of the programs were not profitable to the feed manufacturer. Even when indirect incomes "or fringe benefits" of all programs were considered, nearly half of the programs were unprofitable. Nearly 2 out of 3 manufacturers incurred some losses from turkey programs. Even under the cattle program, 1 out of every 3 incurred some losses. Second, indirect incomes or "fringe benefits", such as savings in cost of production and distribution, were important items in determining profitability of the various programs. A large percentage of the individual programs became profitable when these indirect benefits were added to direct incomes.

Small-scale contract programs may be more successful financially than large-scale programs for several reasons:

On the cost side, smaller programs

Table 15.--Percentage of financing and contract programs yielding profits to the feed manufacturers, by volume, type of livestock, and class

Program type and class 1/	Programs	Average volume per program	Percentage of programs profitable	
			With direct income only	Including indirect incomes
Type	Number	Tons	Percent	Percent
Cattle	10	2,070	60	70
Pullet	6	6,035	34	58
Hog	23	6,444	38	62
Turkey	9	13,850	23	34
Class				
I (mixed)	11	1,555	84	100
V (risk-sharing)	5	2,659	40	60
II	15	5,950	34	55
III	10	11,683	20	20
IV	7	13,330	15	47
All programs	48	6,870	40	58

1/ Arranged according to averaged volume of sales per program.

can be conducted with little or no addition to staff. There are savings through lower costs per ton of feed for printing and for legal, registration, and other contract fees, and lower travel costs. Many of the small programs in this study were informal.

On the revenue side, the advantage of small-scale contract programs is even more apparent. Farmers are highly responsive to financially attractive contract programs. Programs in which feed and services are priced below manufacturers' costs attract many farmers and, therefore, tend to become the large-volume sellers. Programs, on the other hand, that are priced above manufacturers' costs are less attractive to the farmers.

Considering the sharp bidding by feed manufacturers for additional contract tonnage in the areas covered by this study, this explanation appears quite reasonable. Further support for this explanation was given by a detailed analysis of revenue derived from the programs studied. Interest charges and cash discounts to farmers are some of the major tools by which feed manufacturers can expand sales. Interest charges, for example, were conspicuously greater per ton for small programs than for large ones.

Implications of Findings

The frequently unsatisfactory experience of feed manufacturers with financing and contract programs in the Midwest has 2 major implications for the feed industry. One concerns the structure of the industry and the other its operating efficiency.

Because of small profits to feed manufacturers from contract programs, further large-scale integration in the feed industry is not likely to take place in the Midwest. Conditions will have to change drastically

before feed manufacturers will seek additional feeder contracts in the Midwest -- to near the extent they are used in commercial broiler production areas. And if there is any expansion of feeder contracts in the Midwest, it is likely to be restricted to small-scale and to less formalized agreements. Where feeder contracts are widely used by feed manufacturers in the Midwest, e.g., in feeding turkeys, there is little or no incentive toward further integration.

From the point of view of the feed manufacturing industry, the findings of the study imply that effective management is a highly important factor affecting the profitability of contract program operations. Programs with the same general provisions and differing only in detail varied widely in profitability to feed manufacturers; although many of the larger programs were unprofitable, many other large programs were highly profitable.

Feed manufacturers might increase the profitability of their operations by careful reappraisal of the specific added costs and added charges of their program operations. This in many instances may necessitate adjustment of charges to cover at least the actual cost of operation. The spread of $8.00 per ton between the profitable and the unprofitable programs studied (table 14) is a strong incentive to feed manufacturers to control their program operations. The incentive is even greater when the results of individual programs are compared.